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मानक

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“जानने का अधिकार, जीने का अधिकार”

Mazdoor Kisan Shakti Sangathan

“The Right to Information, The Right to Live”

“पुराने को छोड़ नये के तरफ”

Jawaharlal Nehru

“Step Out From the Old to the New”

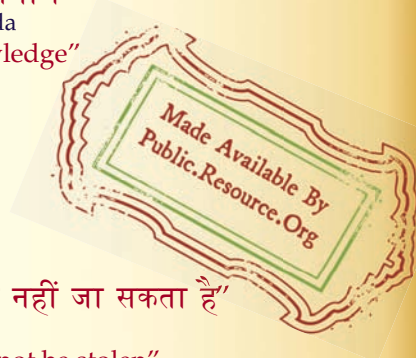
IS 13113 (1991): Bulk handling equipment - Wagon
marshalling equipment - Endless rope type - Data sheet [MED
7: Material Handling Systems and Equipment]



“ज्ञान से एक नये भारत का निर्माण”

Satyanarayan Gangaram Pitroda

“Invent a New India Using Knowledge”



“ज्ञान एक ऐसा खजाना है जो कभी चुराया नहीं जा सकता है”

Bhartrhari—Nitiśatakam

“Knowledge is such a treasure which cannot be stolen”

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कॉपी

IS 13113 : 1991
(Reaffirmed 2001)

भारतीय मानक

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Indian Standard

BULK HANDLING EQUIPMENT —
WAGON MARSHALLING EQUIPMENT —
ENDLESS ROPE TYPE — DATA SHEET

UDC 621.86 : 629.421.4 (083.6)

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BUREAU OF INDIAN STANDARDS
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

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Price Group 2

FOREWORD

This Indian Standard was adopted by the Bureau of Indian Standards, after the draft finalized by the Bulk Handling Equipment Sectional Committee had been approved by the Heavy Mechanical Engineering Division Council.

This data sheet lays down the data/information to be given by the purchaser to the manufacturer as well as data/information to be supplied by the manufacturer to the purchaser. The information given may be helpful for the selection and use of endless rope wagon marshalling equipment. This standard is expected to provide a uniform practice for furnishing the data/information for the aforesaid equipment. General requirements for endless rope type marshalling equipment are covered in IS 13065 : 1991 'Bulk handling equipment — Wagon marshalling equipment — Endless rope type — General requirements'.

Indian Standard

BULK HANDLING EQUIPMENT — WAGON MARSHALLING EQUIPMENT — ENDLESS ROPE TYPE — DATA SHEET

1 SCOPE

This standard lays down the data and information to be supplied by the purchaser and the manufacturer for endless rope type wagon marshalling equipment.

2 DATA/INFORMATION TO BE SUPPLIED BY THE PURCHASER

- 1) Loading/unloading rate in tonnes per hour
- 2) Parameters of rake to be loaded:
 - a) Numbers of wagons in a rake,.....
 - b) Pay load of wagon in tonne,.....
 - c) Tare mass in tonne,.....and
 - d) Dimensions such as inside length, width, height and buffer to buffer distance
- 3) Condition of track, that is, well maintained or not well maintained
- 4) Numbers, degrees and radius of curves
- 5) Gradient of track—The gradient is against/ in favour of loaded wagon:
 - a) in 1 000 for.....m length
 - b) in 1 000 for.....m length
 - c) in 1 000 for.....m length
- 6) Track layout showing position of loading point, weigh bridge, and preferable location of haulage winch, terminal sheaves and tensioning arrangement. The track layout shall also show direction of inhaul and outhaul side.
- 7) Marshalling speed in m/min:
 - a) Speed for loaded wagons.....
 - b) Speed for empty wagons hitch rope.....
 - c) Whether infinitely variable speed required for wagon loading/unloading.....
 - d) Whether constant speeds required for wagon loading, unloading and.....
 - e) Track gauge.....
- 8) Whether it is required to haul a rake of wagons on one track only or rake of wagon on one track and equal rake of wagons in opposite direction on other track.....
- 9) Voltage, number of phases and frequency of power supply.....
- 10) Whether fully automatic controlled system or manually operated system with remote and local control is required.....
- 11) Number of starts per hour.....
- 12) The purchaser may mention any other features required and may provide the necessary data/information for such features

3 INFORMATION TO BE SUPPLIED BY THE MANUFACTURER

3.1 General Specifications

- 1) Number and capacity of loaded and empty wagons that could be hauled on one track only or number and capacity of loaded wagons that could be hauled on one track and number of empty wagons that could be hauled on other track in opposite direction
- 2) Marshalling speed in m/s:
 - a) Speed for loaded wagons.....
 - b) Speed for empty wagons/hitch rope, and
 - c) Whether the system is operated at infinitely variable speed or constant speed while wagon loading.....

3.2 Rope

- 1) Details of rope such as:
 - a) Length required for replacement purpose, ...
 - b) Nominal diameter in mm,.....
 - c) Minimum breaking load in kg,.....
 - d) Nominal mass in kg/m of rope,.....
 - e) Quality of material and nominal tensile strength of wire, if galvanised Type A or Type Z.....

f) Details of construction:

- i) Number and arrangement of strands, ...
 - ii) Number and arrangement of wires in each strand.....
 - iii) Material of main core.....
 - iv) Round strand or flattened strand, Lang's lay or ordinary lay, right hand or left hand, preformed or non-preformed.....
- 2) Hitch rope:
 - a) Length,.....
 - b) Arrangement for attaching the hitch rope with endless rope
 - c) Arrangement for attaching the hitch rope with wagon

3.3 Haulage Unit

- 1) Type of drive.....
- 2) Angle of wrap.....
- 3) Number of wrap.....

3.4 Drum

- 1) Number
- 2) Drum diameter (mm).....
- 3) Flange diameter (mm).....
- 4) Number of grooves.....
- 5) Shaft diameter (mm).....

3.5 Dimension

- 1) Overall length (mm).....
- 2) Overall width (mm).....
- 3) Overall height (mm).....
- 4) Mass (total) (tonne).....
- 5) Mass of heaviest part (tonne).....

3.6 Power Unit

- 1) Location of power unit.....
- 2) Electric motors.....
- 3) Manufacturer
- 4) Power rating (kW).....
- 5) Rated speed (rev/min) (I).....(II).....
- 6) Starting and full load torque.....
- 7) Power factor.....
- 8) Current
- 9) Volts.....Phases.....Cycles.....
- 10) Enclosure

3.7 Speed Reducer

- 1) Manufacturer
- 2) Thermal horse power (kW).....
- 3) Mechanical horse power (kW).....
- 4) Class of service.....
- 5) Type and size.....
- 6) Ratio.....

3.8 Starter/Controller

- 1) Manufacturer.....
- 2) Volts.....Phases.....Cycles.....
- 3) Type and size.....
- 4) Enclosure.....
- 5) Mounting.....Reversing Manual.....Magnetic.....
- 6) Other features.....

3.9 Coupling

- 1) Type.....
- 2) Make.....
- 3) Size.....

3.10 Take-up

- 1) Type of take-up.....
- 2) Pulleys.....
 - a) *Fixed*
 - Number.....Diameter (mm).....
 - Shaft dia (mm).....Shell Thickness (mm)...
 - b) *Movable*
 - Number.....Diameter (mm).....
 - Shaft dia (mm).....
 - Shell thickness (mm).....

3) Dimensions:

- a) Overall length (mm).....
- b) Overall width (mm).....
- c) Overall height (mm).....
- 4) a) Take-up movement (mm).....
- b) Take-up mass (kg).....

3.11 Sheaves

- 1) Type.....
- 2) Diameter (mm).....
- 3) Numbers.....

3.12 Track Rollers

- 1) Roller spacing (m).....
- 2) Numbers.....
- 3) Length over flange (mm).....
- 4) Roll diameter (mm).....
- 5) Material.....
- 6) Bearing.....
- 7) Shaft diameter (mm).....
- 8) Lubrication.....

3.13 Dummy Wagon

- 1) Type/size.....

- 2) Manufacturer.....
- 3) Total operating mass.....
- 4) Ballast mass.....
- 5) Number of axles.....
- 6) Wheel load.....
- 7) Arrangement for attaching the endless rope with dummy wagon.....
- 8) Arrangement for attaching the dummy wagon with wagon.....

3.14 Any Other Data/Information

The manufacturer may give any other data/information about specific features of the equipment not covered in 3.1 to 3.13.

Standard Mark

The use of the Standard Mark is governed by the provisions of the *Bureau of Indian Standards Act, 1986* and the Rules and Regulations made thereunder. The Standard Mark on products covered by an Indian Standard conveys the assurance that they have been produced to comply with the requirements of that standard under a well defined system of inspection, testing and quality control which is devised and supervised by BIS and operated by the producer. Standard marked products are also continuously checked by BIS for conformity to that standard as a further safeguard. Details of conditions under which a licence for the use of the Standard Mark may be granted to manufacturers or producers may be obtained from the Bureau of Indian Standards.